

## CLAIMS

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is as follows:

5 1. An apparatus for providing micro-optics in a substrate located approximate to the focal plane array within an optical system comprising:

a focal plane array (FPA) detector surface, wherein input radiation from a viewed scene is received by the optical system;

10 a substrate with a front and back side, said backside further including a microlens, said substrate is approximate to the focal plane within said optical system, whereby there is created a micro-optic function at the detector focal plane.

15 2. The apparatus of claim 1 wherein said microlens is a diffractive lens structure.

3. The apparatus of claim 1 wherein said microlens is a refractive lens structure.

20 4. A micro-optic technique for a substrate within an optical system, comprising the steps of:

receiving input radiation from a viewed scene through an optical assembly onto a focal plane of an optical system;

25 providing a substrate on the optical axis in proximity to the focal plane within said optical assembly;

providing micro-optics on the substrate, whereby there is created a micro-optic effect from the substrate at said FPA detector surface.

5. The micro-optic technique of claim 4 wherein said micro-optic effect is an improved detector fill factor.

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